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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

KUMAR, PREETI

ART UNIT PAPER NUMBER

1751

DATE MAILED: 07/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/726,045

Applicant(s)

BRUCHMANN ET AL.

Examiner

Preeti Kumar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 1-5, 7, 9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6, 8 and 11-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-13 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3, 4. 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-13 are pending.

Response to Election Argument

2. Applicant's election with traverse of Group III 6-13 and the election of the single embodiment wherein R1 is hexamethylene, X is a covalent bond, R2 is octadecyl, Y is hydrogen and n is one and wherein the isocyanate-reactive group on a surface which has at least one isocyanate-reactive group is surface of cotton fabric as disclosed in Paper No. 6 is acknowledged. The traversal is on the grounds that it has long been the practice to permit the claiming of a compound, a process of making the compound and a method of using. The traversal to the election requirement is on the grounds of the process nature of the elected invention. This is not found persuasive because the search for an isocyanate compound, a process of preparing an isocyanate compound, and a process for functionalizing compounds or surfaces containing at least one group reactive toward isocyanate by reacting with an isocyanate compound requires three searches in various classes and subclasses thereby placing an undue burden on the examiner. Also, the search for the various species places an undue burden on the examiner. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 6, 8, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda et al. (US 4,008,196).

Matsuda et al. teach a process for the preparation of amphoteric resinous aqueous emulsions useful for the treatment of fiber-containing products, comprising reacting an isocyanate-terminated urethane prepolymer with an excess of a polyalkylene polyamine to form a polyurethane-urea-polyamine, then partially reacting the amino groups in the polyurethane-urea-polyamine with a compound selected from the group consisting of alkyl isocyanates in which the alkyl group has 12 to 22 carbon atoms. See abstract. Matsuda et al. teach that when polyurethane-urea-polyamine is partially reacted with a compound so as to introduce a long-chain alkyl group into the molecule, and then the remaining unreacted amino groups are rendered amphoteric, there is obtained an aqueous resin emulsion which can impart to fibers not only elasticity and crease resistance, but also a soft touch or feel and excellent washing fastness when the emulsion is used as a fiber-treating agent. See col.1, ln.44-53.

Matsuda et al. teach example of the polyfunctional isocyanate to be used as the starting material for the production of the urethane prepolymer, such as 1,5-naphthylene

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diisocyanate, or hexane-1,6-diisocyanate, dicyclohexylmethane diisocyanate, xylylene diisocyanate and the like. See col.2, ln.10-22. More specifically, the introduction of a long-chain alkyl isocyanate into the polyurethane-urea-polyamine, may be accomplished with alkyl isocyanates having an alkyl group of 12 to 22 carbon atoms such as octadecyl isocyanate. See col.4, ln.40-56. Matsuda et al. teach that when the polyurethane emulsion is used for the treatment of fiber-containing products, it imparts to the fibrous products not only good elasticity and crease resistance, but also a soft touch. Further, when non-woven fabrics, papers, leathers, rubbers, woods, metals, glasses and plastics are treated with this polyurethane emulsion by dipping or surface coating or spraying, followed by drying, the effects of improved touch and physical properties are attained. The polyurethane emulsion can be used for treating construction materials and adhesives. Furthermore, because the structure of the resinous component of the emulsion has the structure of a polymeric surface active agent, it is expected that the emulsion can be used not only as a binder but also as a surface active agent. See col.5, ln.63-col.6, ln.5.

Matsuda et al. do not specifically teach a process for modifying compounds or surfaces, by reacting a compound of the formula (1) with at least one isocyanate-reactive group and the other requisite steps in the process as recited by the instant claims. However, it would have been obvious at the time the invention was made to modify a compound or surface by reacting a compound of the formula as recited by the instant claims, with a reasonable expectation of success, because the teachings of Matsuda et al. suggest a process for modifying compounds or surfaces, by reacting a

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polyfunctional isocyanate with a long-chain alkyl isocyanate such as octadecyl isocyanate for the treatment of fiber-containing products in general.

6. Claims 6, 8, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US 4,180,491).

Kim et al. teach polymers prepared in non-aqueous media and are the reaction products of certain combinations of the following reactants: (a) at least one water soluble polyether polyol; (b) at least one water insoluble organic diisocyanate; (c) at least one water insoluble organic polyisocyanate containing three or more isocyanate groups; (d) at least one hydrophobic organic monofunctional active hydrogen compound; (e) at least one hydrophobic organic monoisocyanate; and (f) at least one polyhydric alcohol or polyhydric alcohol ether, containing three or more hydroxyl groups. See col.3, ln.57-col.4, ln.13.

Reactants (b) and (c) are water insoluble organic diisocyanates and polyisocyanates containing three or more isocyanate groups, respectively. These isocyanates [which may also be used to form the hydroxylterminated prepolymers included among reactants (a)], may be aliphatic, cycloaliphatic or aromatic, such as the following, and may be used singly or in admixture of two or more thereof including mixtures of isomers: 1,6-hexamethylene diisocyanate ("HDI"), 2,6- and 2,4-tolylene diisocyanate ("TDI"). The monoisocyanates representative of reactant (e) include straight chain, branched chain and cyclic isocyanates such as octadecyl isocyanate. See col.7, ln.10-55, and claim1.

Kim et al. do not specifically teach a process for modifying compounds or surfaces, by reacting a compound of the formula (1) with at least one isocyanate-reactive group and the other requisite steps in the process as recited by the instant claims. However, it would have been obvious at the time the invention was made to modify a compound or surface by reacting a compound of the formula as recited by the instant claims, with a reasonable expectation of success, because the teachings of Kim et al. suggest a process for modifying compounds or surfaces, by reacting a polyisocyanate with a straight-chain monoisocyanate such as octadecyl isocyanate in general.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Preeti Kumar whose telephone number is 703-305-0178. The examiner can normally be reached on M-F 9:00am - 5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 703-308-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-872-9309.

PK
July 1, 2002

Preeti Kumar
Examiner
Art Unit 1751

GREGORY DELCOTTO
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'G. Delcotto', written over the printed name of the primary examiner.